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XL.—*On the Ornithology of Northern Borneo.* By R. BOWDLER SHARPE, F.L.S., F.Z.S., &c. *With Notes* by JOHN WHITEHEAD.—Part IV.*

(Plates XII., XIII.)

Fam. TIMELIIDÆ.

119. BRACHYPTERYX ERYTHROGYNA.

Brachypteryx erythrogyna, Sharpe, Ibis, 1888, p. 389, pl. x.

a. ♀ ad. Kina Balu, Jan. 31, 1888.

b, c. ♂ ♀ ad. Kina Balu, Feb. 25–28, 1888.

d. ♂ ad. Kina Balu, March 26, 1888.

e. ♂ ad. Kina Balu, April 1, 1888.

A young male in Mr. Whitehead's collection is of a duller blue than the adult male, and not only has the abdomen washed with rufous, but has some rufous feathers on the breast, evidently the remains of the first plumage, which must therefore resemble that of the adult female.

[Frequents the true forest from 4000 to 8000 feet, though very scarce at the lower elevation, owing to the Dusan rat-traps, which have almost exterminated all the small mammals and ground-loving birds. This species, like the little

* Continued from p. 283.

Androphilus, was most difficult to shoot from its extreme tameness, as it often came within a few feet of us, and followed us for several yards through the forest, making it extremely hard to obtain specimens without blowing them to bits. Eye dark brown; feet and bill black.]

120. *ORTHINOCICHLA WHITEHEADI*. (Plate XII.)

Orthnocyhla whiteheadi, Sharpe, Ibis, 1888, p. 478.

a, b. ♂ ♀ ad. Kina Balu, March 1888.

c. ♂ ad. Kina Balu, Feb. 14, 1888.

Adult male. General colour above warm chocolate-brown; wing-coverts like the back; bastard-wing and primary-coverts blackish, externally edged with chocolate-brown; quills blackish, the primaries externally lighter brown than the back, the secondaries like the latter; tail-feathers blackish, narrowly margined with brown; crown of head blackish brown, as far as the nape; hind neck like the back; a broad eyebrow of tawny buff running from the base of the nostrils to the sides of the hind neck; sides of face tawny buff below the eye; lores, feathers round eye, and ear-coverts blackish brown; cheeks and under surface of body pure white; the fore neck and breast mottled with a few ashy margins to the feathers; sides of body, flanks, and thighs ashy brown, more decidedly dark ashy on the sides of the breast; under tail-coverts lighter brown; under wing-coverts and axillaries blackish, edged with white; quills below blackish, more ashy along the inner edge. Total length 3·3 inches, culmen 0·65, wing 1·95, tail 0·8, tarsus 0·8.

Adult female. Similar in colour to the male. Total length 3·3 inches, culmen 0·5, wing 1·85, tail 1·85, tarsus 0·75.

This peculiar little bird seems to be strictly congeneric with my *Orthnocyhla subulata* from Timor (Notes Leyd. Mus. vi. p. 179), and though so strikingly different in colour, there are several points of characteristic resemblance, viz. the white under surface, the pale yellowish-white legs, and the broad eyebrow.

[Very Wren-like in habits, frequenting the undergrowth close to the ground, through which it creeps more after the

manner of a mouse than of a bird. This little bird is apparently rare, and in my expeditions I only procured three specimens, which were met with in the true forest at elevations of from four to seven thousand feet. Eye black; feet and claws white; bill brown.]

121. *POMATORHINUS BORNEENSIS*, Cab.

Pomatorhinus borneensis, Salvad. Ucc. Born. p. 210; Sharpe, Cat. B. vii. p. 411.

a, b. ♂ ♀ ad. Kina Balu, March 20, 1887.

c. ♂ ad. Kina Balu, April 1, 1887.

[I only met with this species in the old Dusan rice-clearings, at about 1500 feet, where it frequented the low growth near the ground, especially where broad coarse grasses were abundant. In these spots it makes a large nest like a ball, composed of coarse grasses and lined with finer leaves, in which it lays two glossy white eggs, about the middle of January, those found having been taken on the 20th of that month; axis 0·95 inch, diam. 0·7. Eye pale yellow; bill dirty white, except at the base of the upper mandible, where it is black; legs pale slaty blue.]

122. *GARRULAX SCHISTOCHLAMYS*.

Garrulax schistochlamys, Sharpe, Ibis, 1888, p. 479.

a, b. ♂ ♀ ad. Kina Balu, May 14, 1888.

c. ♂ ad. Kina Balu, May 15, 1888.

Adult male. Slaty grey on the head, mantle, and back; lower back, rump, and upper tail-coverts as well as the scapulars and wings chestnut-brown, the primaries externally paler and more fulvous brown; centre tail-feathers deep chestnut-brown, the remainder blackish, externally deep chestnut; lores and base of forehead blackish, extending below the eye; ear-coverts, cheeks, sides of neck, and under surface of body light slaty grey, with blackish shaft-streaks to the feathers of the throat; sides of body and flanks, thighs, vent, and under tail-coverts light chestnut-brown; under wing-coverts dusky, washed with rufous; quills dusky brown below, ashy rufous along the inner web. Total length 9·5 inches, culmen 1·1, wing 4·7, tail 4·15, tarsus 1·6.

Adult female. Similar to the male, but rather lighter in colour. Total length 10 inches, culmen 1·05, wing 5·0, tail 4·15, tarsus 1·65.

[I only met with this species at my last camp, where it frequented the true forest, at an altitude of 4000 feet, feeding amongst the higher branches of large trees. Small bands of five individuals were observed, being probably the old and young birds of the year. Iris lake-red, with a fairly large sub-ocular patch of bare skin of a pale blue colour, almost white; bill black; feet dark brown.]

123. RHINOCICHLA TREACHERI.

Rhinocichla treacheri, Sharpe, Cat. B. vii. p. 453.

Ianthocinclla treacheri, Sharpe, P. Z. S. 1879, p. 248, pl. xxiii.

a, b. ♂ ♀ ad. Kina Balu, Jan. 9, 1888.

c, d. ♂ ♀ ad. Kina Balu, Feb. 10, 1887.

e. ♂ ad. Kina Balu, March 15, 1887.

The plate in the original paper is not quite accurate, and gives the silvery markings of the crown as if they formed a patch in the centre of the forehead, whereas they really form a frontal band which extends backwards above the fore part of the eye. The measurements of a pair of this bird are as follows :—

	Total length.	Culmen.	Wing.	Tail.	Tarsus.
	in.	in.	in.	in.	in.
Adult male	9·3	0·9	4·1	4·2	1·4
Adult female	8·7	0·8	4·1	4·2	1·3

[This species is one of the ornithological features of the lower slopes of Kina Balu, where it frequents the low growth which springs up in the old rice-fields. It is found more sparingly at high elevations up to 9000 feet in the true forest, so that perhaps it has a wider range on Kina Balu than any other bird. Its real head-quarters are, however, the low growth from 700 to 1000 feet, from which point it becomes scarcer as one enters the forest or reaches higher elevations. The “Lāhoie,” as the Dusans call this bird, creeps and hops about within a few feet of the ground, or may sometimes be seen amongst the highest branches of old forest trees, in parties of four or five, probably an entire family.

It utters a loud whistling note, which may be heard more frequently in the early morning. This is one of the first sounds which attracts the traveller's attention on entering the Kina Balu region.

I saw a nest which was built in a long tangled mass of creepers some 30 feet from the ground; it was composed of dead leaves and roots, and contained one bright greenish-blue egg: this was on the 17th of March. Iris dark lake-red; bill pale orange-yellow; skin round eye bright king's yellow; feet paler yellow.]

124. *ALLOCOTOPS CALVUS*. (Plate XIII.)

Allocotops calvus, Sharpe, Ibis, 1888, p. 389.

a, b. ♂, c, d. ♀ ad.; e. ♂ jr. Kina Balu, March 1888.

I have already described the sexes of this species (*l. c.*) and the curious young bird.

[Met with on my second expedition in the old forest at 4000 feet. It has a loud booming call-note, and creeps about in the trees much like *Rhinocichla treacheri*, from which it would be difficult to distinguish it but for the white marks on the wings of that species. This bird is by no means common and seems to be local. The young bird, curiously enough, has the crown of the head feathered to the base of the bill, but has a large space of bare skin behind the eye, as well as bare spaces on the neck. The feathers are softer, and the wings of a lighter brown than in the adult.

The adults had the iris dark brown, the bill vermilion, the head quite bald, and the skin of a brownish greenish-yellow, more yellow at the base of the bill; bare skin on neck dull bluish green; feet brownish yellow.

Native name "Rigo Rigo."]

125. *STACHYRIS BORNEENSIS*.

Stachyris borneensis, Sharpe, Ibis, 1887, p. 449.

a, b. ♂ ♀ ad. Kina Balu, Jan. 19, 1888.

c. ♀ ad. Kina Balu, Feb. 18, 1887.

d, e. ♂ ♀ ad. Kina Balu, March 20, 1887.

f. ♀ ad. Kina Balu, March 25, 1887.

The sexes do not differ in colour, and a pair measure as follows:—

	Total length.	Culmen.	Wing.	Tail.	Tarsus.
	in.	in.	in.	in.	in.
Adult male	5.2	0.65	2.2	2.1	0.86
Adult female	5.0	0.6	2.4	1.95	

[Frequents the old rice-plantations and the true forest from 1000 to 5000 feet. It hunts through the low growth in small parties or families of five or six individuals. The nest is a large ball of broad-leaved grasses and other leaves, hidden away amongst the stems of palm-trees or in other dark places. The eggs are three, glossy white; axis 0.8 inch, diam. 0.55. Eye brownish yellow; bill black; feet horny green.]

126. *STACHYRIS MACULATA* (T.).

Stachyris maculata (T.); Sharpe, Cat. B. vii. p. 538.

Timelia maculata, Salvad. t. c. p. 211; Sharpe, Ibis, 1877, p. 10.

a, b. ♂ ♀ ad. Lawas River, April 13, 1886.

c. ♂ ad. Benkoka, Sept. 22, 1885.

d. Ad. Benkoka, Oct. 6, 1885.

[Frequents the true forest near the ground. Iris whitish yellow; feet and lower bill cobalt-blue; upper mandible black; the sides of the neck are bare of feathers, and the skin is of a pale blue.]

127. *STACHYRIS POLIOCEPHALA*, Temm.

Stachyris poliocephala, Temm.; Sharpe, Cat. B. vii. p. 534; id. Ibis, 1887, p. 450.

Timelia poliocephala, Salvad. t. c. p. 212.

a. ♂ ad. Kina Balu, March 7, 1887.

[Only one specimen met with on Kina Balu, at an altitude of 4000 feet.]

128. *TURDINUS ATRIGULARIS*.

Turdinus atrigularis (Bp.); Salvad. t. c. p. 217; Sharpe, Cat. B. vii. p. 549.

a. ♂ ad. Benkoka, Nov. 2, 1885.

[Only one specimen met with, which I shot one evening at a small stream in the forest. Iris dark brown; the bare skin behind the eye of a pale blue; feet dull pinkish brown.]

129. *TURDINUS CANICAPILLUS*.

Turdinus canicapillus, Sharpe, Ibis, 1887, p. 450.

a. ♂ ad. Kina Balu, March 10, 1888.

b. ♂ ad. Kina Balu, March 25, 1887.

c. ♀ ad. Kina Balu, April 12, 1888.

d. ♂ ad. Kina Balu, April 20, 1888.

The sexes are alike in colour, and a pair measure as follows:—

	Total length.	Culmen.	Wing.	Tail.	Tarsus.
	in.	in.	in.	in.	in.
Adult male	5·0	0·65	2·5	2·15	1·0
Adult female	5·3	0·65	2·45	2·0	0·95

[Fairly common on the lower slopes of Kina Balu from 3000 to 4000 feet, frequenting the undergrowth.]

130. *TURDINUS MAGNIROSTRIS*.

Turdinus magnirostris (Moore); Sharpe, Cat. B. vii. p. 547.

a. ♂ ad. Benkoka, Oct. 28, 1885.

The single specimen is rather smaller and greyer than Malaccan examples. This seems to be the first recorded occurrence of the species in Borneo.

[Legs dark cobalt; bill black, lower mandible whitish cobalt.]

131. *ERYTHROCICHLA BICOLOR*.

Erythrocichla bicolor (Less.); Sharpe, Cat. B. vii. p. 551.

Malacopteron ferruginosum, Bl.; Salvad. t. c. p. 228; Brüggem. Abhandl. Bremen, v. p. 460; Sharpe, Ibis, 1879, p. 258.

a, b. ♂ ad. Benkoka, Oct. 1885.

[Frequents old forest, but apparently not very common. Those shot were hunting in the lower branches of the undergrowth near the forest paths. Iris light hazel; upper mandible dark brown, lower one yellow at the base; feet flesh-colour.]

132. *DRYMCATAPHUS CAPISTRATOIDES*.

Drymcataphus capistratoides (T.); Salvad. t. c. p. 218; Sharpe, Ibis, 1879, p. 258; id. P. Z. S. 1881, p. 797; id. Cat. B. vii. p. 555.

a. ♀ ad. Benkoka, Sept. 5, 1888.

b. ♂ ad. Kina Balu, March 20, 1887.

[Found in the thick jungle on the ground. This species walks on the ground, never hopping or climbing about amongst the low growth. The Kina Balu specimen was killed at an elevation of 1000 feet.]

133. *TRICHOSTOMA ROSTRATUM*.

Trichostoma rostratum, Blyth; Sharpe, Cat. B. vii. p. 562.

Brachypteryx umbratilis (T.); Salvad. t. c. p. 258; Sharpe, P. Z. S. 1881, p. 797.

a. ♂ ad. Benkoka, Oct. 23, 1885.

134. *MALACOPTERUM CINEREUM*.

Malacopteron cinereum, Eyton; Sharpe, Cat. B. vii. p. 565.

Malacopteron magnum, Eyton; Salvad. t. c. p. 226.

a. ♂ ad. Benkoka, Sept. 9, 1885.

[Bill black, lower mandible flesh-colour; feet flesh-colour.]

135. *MALACOPTERUM AFFINE*.

Malacopteron affine (Bl.); Sharpe, Cat. B. vii. p. 569.

Setaria affinis, Salvad. t. c. p. 231; Sharpe, Ibis, 1877, p. 12; id. P. Z. S. 1879, p. 340; id. Ibis, 1879, p. 258.

a. ♀ ad. Labuan, Dec. 20, 1885.

136. *KENOPIA STRIATA*.

Kenopia striata (Bl.); Salvad. t. c. p. 223, tav. v. fig. 2 (1874); Sharpe, P. Z. S. 1881, p. 797; id. Cat. B. vii. p. 573.

a. ♀ ad. Benkoka, Oct. 28, 1885.

[I only met with this one specimen, which came to drink at a small stream that I was watching. Iris black; feet white; upper mandible black, lower one white.]

137. *MIXORNIS BORNEENSIS*.

Mixornis borneensis, Bp.; Salvad. t. c. p. 215; Sharpe, Ibis, 1877, p. 11; id. P. Z. S. 1879, p. 340; id. Ibis, 1879, p. 257; id. Cat. B. vii. p. 580; Blasius, Verh. z.-b. Ges. Wien, xxxiii. p. 62 (1883).

Timelia borneensis, Brüggem. Abhandl. Bremen, v. p. 460.

a, b. ♂ ad. Benkoka, Oct. 19, 1885.

c. ♂ ad. Benkoka, Sept. 5, 1885.

[Frequents the lower growth of tangled masses of jungle, especially in the neighbourhood of wet places. The note is "Buckier, buckier, buckier," which is uttered sharply. Iris whitish yellow; bill and feet dark brown.]

138. MIXORNIS MONTANA.

Mixornis montana, Sharpe, Ibis, 1887, p. 449.

a, b. ♂ ♀ ad. Kina Balu, Jan. 19, 1888.

c. ♀ ad. Kina Balu, Feb. 13, 1888.

d. ♀ ad. Kina Balu, April 5, 1887.

I have described an adult female, but there is no difference between the sexes.

[Fairly common at an altitude of 1000 feet on Kina Balu, frequenting the old clearings, where it creeps about amongst the coarse grasses and dense masses of undergrowth within a few feet of the ground. In the early mornings this little bird may be heard uttering a loud bell-like note, which it ends up with "Chou chou buckier buckier," uttered as sharply as with its relation *M. borneensis*.

The nest is a small loosely constructed ball of broad grass-stems entered by a hole in the side; it is generally placed within a foot of the ground amongst dead ferns or coarse grasses. The eggs are three in number, white spotted all over with pale pink spots, and may be found from the middle of January to March. Axis 0·75 inch, diam. 0·55. Iris light yellow.]

139. ANDROPHILUS ACCENTOR.

Androphilus accentor, Sharpe, Ibis, 1888, p. 390, pl. ix. fig. 2.

a. ♂ ad. Kina Balu, Jan. 31, 1888.

b. ♂ ad. Kina Balu, Feb. 3, 1888.

c. ♀ ad. Kina Balu, Feb. 25, 1888.

d. ♂ ad. Kina Balu, Feb. 26, 1888.

[This species invariably sought us out, and would appear almost under one's toes, following for several yards, along the forest paths. My men often tried to knock them down

with their head-cloths. If this bird ever frequented the lower altitudes of Kina Balu it has long since been exterminated by the Dusan rat-traps, which no doubt account for its scarcity at the altitudes which it now frequents. Iris dark brown; upper mandible black, the lower one greyish brown at base; legs dark brown.]

I only met with this species at from 7000 to 9000 feet, where it frequented the dark and damp patches of forest, amongst the wet moss-covered fallen trunks of large trees, where this peculiar bird was found singly. The first individual of this species I took for a mouse, as it crept about within a few yards of my feet; it was quite ten minutes before I could get a shot, the bird following me for several yards.]

140. *CORYTHOCICHLA CRASSA*.

Corythocichla crassa, Sharpe, Ibis, 1888, p. 391.

a, b. ♂; *c, d.* ♀ ad. Kina Balu, Feb. 1888.

e. ♂ ad. Kina Balu, March 2, 1888.

[Met with at 7000 feet on Kina Balu, where it frequents the low bamboo growth, hunting in small families of four or five individuals, often at some height above the ground. Iris dark brown; legs also dark brown; bill black, the lower mandible greyish at the base.]

141. *TURDINULUS EXSUL*.

Turdinulus exsul, Sharpe, Ibis, 1888, p. 479.

a, b. ♂ ♀ ad. Kina Balu, May 10, 1888.

The female is like the male in colour. Total length 4·3 inches, culmen 0·6, wing 2·2, tail 1·1, tarsus 0·85.

[I only obtained two specimens of this species at about 5000 feet on Kina Balu, where it is apparently rare.]

142. *ANUROPSIS MALACCENSIS*.

Anuropsis malaccensis (Hartl.); Sharpe, Cat. B. vii. p. 588.

Brachypteryx malaccensis, Salvad. t. c. p. 222; Sharpe, Ibis, 1876, p. 40, 1877, p. 12; id. Ibis, 1879, p. 258; id. P. Z. S. 1881, p. 797.

a. ♂ ad. Sandakan, N. Borneo, April 21, 1885.

Fam. LANIIDÆ.

143. LANIUS LUCIONENSIS.

Lanius lucionensis, L.; Sharpe, Ibis, 1876, p. 43; id. P. Z. S. 1879, p. 341; id. Ibis, 1879, p. 259.

Lanius schwaneri, Bp.; Salvad. t. c. p. 159.

a. ♂ ad. Benkoka, Oct. 19, 1885.

b. ♂ ad. Labuan, Nov. 30, 1885.

c. ♂ imm. Labuan, Dec. 5, 1885.

d. ♀ imm. Kina Balu, March 25, 1887.

[Met with on Kina Balu up to 4000 feet. Native name "Burong Cassip."]

144. HYLOTERPE HYPOXANTHA.

Hyloterpe hypoxantha, Sharpe, Ibis, 1887, p. 451.

a. ♂ juv. Kina Balu, Feb. 25, 1887.

b, c. ♂ ♀ ad. Kina Balu, Feb. 20, 1887.

d, e. ♀ ad. Kina Balu, March 13, 1888.

The sexes are alike in colour, and a pair measure :—

	Total length.	Culmen.	Wing.	Tail.	Tarsus.
	in.	in.	in.	in.	in.
Adult male	5·8	0·6	3·3	2·3	0·75
Adult female.....	6·0	0·65	3·4	2·35	0·75

The young bird is like the adults, but rather duller in colour, and has several rufous-edged feathers on the back, wings, and breast.

[Met with on Kina Balu from 3000 to 8000 feet, but more plentiful at the higher elevation, where it frequents the lower branches of high trees. Iris and bill black; feet bluish grey; the lower mandible of the young bird is yellowish at the base.]

145. HYLOTERPE GRISOLA.

Hyloterpe grisola (Bl.); Salvad. t. c. p. 157; Sharpe, P. Z. S. 1879, p. 341.

a, b. ♂; c, d. ♀ ad. Pulo Tega, April 25, 1886.

[Feet cobalt-blue.]

146. PTERUTHIUS ÆRALATUS.

Pteruthius æralatus, Tick.; Sharpe, Ibis, 1887, p. 451; id. P. Z. S. 1888, p. 276.

a, b. ♂ ♀ ad. Kina Balu, March 9, 1887.

c. ♀ ad. Kina Balu, Jan. 8, 1888.

d, e. ♀ ad. Kina Balu, Feb. 1888.

f. ♀ ad. Kina Balu, April 15, 1888.

Mr. Whitehead's male specimens are exactly the same as Sumatran *P. cameranoi*, and they exhibit the slight differences from *P. aeralatus* to which I drew attention last year (P. Z. S. 1888, p. 276), viz. the blue-black gloss on the head, and more decided pink on the flanks. These differences are, however, not constant, and I do not see how the Tenasserim and Sumatran specimens are to be kept separate. The females are not different either, for the fulvous colour on the throat extends to the chin in the Bornean birds; but one of the latter has a pale throat just as in a Tenasserim skin, and the fulvescent throat seems to me to be a sign of immaturity.

[Met with from 4000 to 9000 feet; fairly common at the latter elevation, where it haunts the low weather-beaten trees in small parties. They sit on the lower boughs, hopping sideways when moving, every now and then leaving their perches to pick an insect off the leaves. They have a very hawk-like look, sitting with the head sunk low on the shoulders, and are quarrelsome with other birds, always driving them off. Iris pale bottle-green; legs light pink. Upper half of upper bill black, rest and lower mandible pale blue.]

Fam. CERTHIIDÆ.

147. *DENDROPHILA CORALLIPES.*

Dendrophila corallipes, Sharpe, Ibis, 1888, p. 479.

Dendrophila frontalis (Horsf.); Salvad. t. c. p. 161; Sharpe, Ibis, 1879, p. 259; id. P. Z. S. 1881, p. 795.

a, b. ♂ ♀ ad. Lawas River, April 2, 1886.

c. ♂ ad. Padas River, June 14, 1885.

d. ♀ ad. Kina Balu, Feb. 26, 1887.

e. ♀ ad. Kina Balu, April 8, 1888.

It is rather curious that no one has noticed the difference in the colour of the feet in the Bornean bird. Mr. Whitehead was the first to point it out to me.

[More plentiful on the sea-coast, where it frequents the Casuarina trees and mangrove-swamps on the edges of rivers. Also found on Kina Balu up to 3000 feet. In habits this bird is like a true Nuthatch. It was only on shooting a *Dendrophila* in Palawan that I discovered the difference of the two species. The Bornean bird has turned out to be the undescribed form, the Palawan and Java species being the true *D. frontalis* with black legs. The Bornean bird is also more vivid in colouring.

Native name "Tempakeris." (What this means I do not know.) Iris straw-yellow; bill and legs vermilion, the former tipped with black. The bill in the true *D. frontalis* is not "bright cobalt-blue" as is stated in vol. viii. of the Museum 'Catalogue' (p. 359), but of an orange-vermilion.]

Fam. NECTARINIIDÆ.

148. *ÆTHOPYGA TEMMINCKI*.

Æthopyga temmincki (S. Müll.); Sharpe, Ibis, 1878, p. 419; Shelley, Monogr. Nect. p. 47, pl. 16. fig. 1.

a, b. ♂ ♀ ad. Kina Balu, Feb. 20, 1887.

c. ♀ ad. Kina Balu, April 14, 1888.

d. ♂ ad. Kina Balu, May 8, 1888.

This species was first recorded from Sarawak by myself in 'The Ibis' (l. c.) The female remains, so I add a description:—

Adult female. General colour above olive-yellow, with a golden shade on the back; lesser and median coverts like the back; greater coverts, bastard-wing, and primary-coverts dusky brown, externally olive, with a tinge of orange-red; quills dusky brown, edged with yellow, which is more or less tinged with orange-red; the innermost secondaries olive-brown; tail-feathers dusky brown, edged with orange-red, olive towards the ends of the outer webs; crown of head ashy grey, the occiput and nape washed with olive-yellow; lores ashy; eyelids whitish; sides of face, ear-coverts, and cheeks ashy grey, the latter washed with olive; chin, throat, and under surface of body pale greenish, the throat rather more ashy; on the sides of body a silky white patch; long

feathers on the flanks ashy white; lower abdomen, thighs, vent, and under tail-coverts pale greenish yellow; under wing-coverts and axillaries white; quills below dusky, white along the inner edge. Total length 3·3 inches, culmen 0·55, wing 1·75, tail 1·05, tarsus 0·5.

[Found on Kina Balu at from 2000 to 6000 feet, but most plentiful about 4000 feet, where it frequents the high forest trees and feeds among the many parasitical plants which cover their boughs with many beautiful flowers. Iris and bill black; feet dark brown.]

149. *ÆTHOPYGA SIPARAJA*.

Æthopyga siparaja (Raffl.); Shelley, Monogr. Neet. p. 57, pl. 19; Sharpe, P. Z. S. 1879, p. 342; id. Ibis, 1879, p. 260.

Æthopyga eupogon, Cab.; Salvad. t. c. p. 173; Sharpe, Ibis, 1876, p. 42, 1877, p. 17; id. P. Z. S. 1881, p. 796.

a. ♂ ad. Labuan, May 1886.

b. ♂ ad. Labuan, June 30, 1886.

c. ♂ ad. Kina Balu, March 17, 1887.

d. ♀ ad. Kina Balu, April 1887.

e. ♀ ad. Kina Balu, May 5, 1888.

[Fairly common in the lowland forests, and found on Kina Balu up to 2000 feet, above which elevation its place is immediately taken by *Æ. temmincki*, neither species seeming to overlap the range of the other.

In the end of April I found a nest of this species which was placed under an overhanging bank amongst loose roots of trees. The nest was a long pocket made outwardly of dead grass and lined with fine roots. The eggs were two in number, of a pale salmon-pink, blotched with darker tints at the larger end, then spotted and marked with dark lake-red. Axis 0·55 inch, diam. 0·4.

Native name "Suit merah" (red). "Suit" is the native name of all species of *Nectarinia*, called so from their note, which is "suit suit."]

150. *CHALCOSTETHA INSIGNIS*.

Chalcostetha insignis (Jard.); Salvad. t. c. p. 177; Shelley,

Monogr. Nect. p. 87, pl. 30; Sharpe, Ibis, 1877, p. 17, 1879, p. 260; id. P. Z. S. 1881, p. 796.

a. ♂ ad. Labuan, May 1886.

b. ♀ ad. Labuan, July 1886.

[This species is met with more frequently in the mangrove-swamps than elsewhere, and I do not think that it is ever found very far from swamps. I saw a nest in Palawan which was a suspended pocket made of grass-stems, and contained two young birds.

Native name "Suit Tungeon" (*i. e.* the "Swamp Suit.")]

151. CINNYRIS HASSELLI.

Cinnyris hasselti (T.); Shelley, Monogr. Nect. p. 127, pl. 42; Sharpe, P. Z. S. 1879, p. 342; id. Ibis, 1879, p. 260; id. P. Z. S. 1881, p. 796.

Nectarophila hasselti, Salvad. t. c. p. 177; Sharpe, Ibis, 1877, p. 18.

a. ♂ ad. Labuan, March 21, 1886.

152. CINNYRIS PECTORALIS.

Cinnyris pectoralis (Horsf.); Shelley, Monogr. Nect. p. 165, pl. 53; Sharpe, P. Z. S. 1879, p. 341; id. Ibis, 1879, p. 259.

Cyrtostomus pectoralis, Salvad, t. c. p. 170.

a, b. ♂ ♀. Labuan, December 1885.

[Common in Labuan, and in open places generally. It prefers to frequent fruit-gardens to most other localities. I have seen many nests of this bird, which are generally suspended about 3 or 4 feet from the ground on an outside branch of some bush or small tree. The nest is often a beautiful structure, composed of dead leaves; over the small entrance-hole is a roof which projects so as to keep out the wet. At the bottom is generally a long streamer which assists in making the nest look much like a lump of leaf-refuse that has got caught up in the branches. Inside the nest is lined with "Llang"-grass down, from the seeds of that plant.

The eggs are always two in number, of a pale greenish blue under surface, sometimes thickly clouded with light

brown, and slightly speckled with small black spots, or of the same underlying colour, only slightly marked with greyish blotches and small black spots. Axis 0·55 inch, diam. 0·45.]

153. ARACHNOTHERA JULIÆ.

Arachnothera juliaë, Sharpe, Ibis, 1887, p. 452, pl. xiv.

a. ♂ ad. Kina Balu, Feb. 19, 1887.

b. ♀ ad. Kina Balu, March 8, 1887.

c, d. ♂ ♀ ad. Kina Balu, April 2, 1888.

e. ♂ juv. Kina Balu, April 26, 1888.

The sexes are alike in colour and measure as follows :—

	Total length.	Culmen.	Wing.	Tail.	Tarsus.
	in.	in.	in.	in.	in.
Adult male	6·9	1·95	3·4	1·75	0·7
Adult female	6·8	1·8	3·1	1·65	0·65

[This Spider-Hunter, one of the finest of my discoveries, was scarce on Kina Balu. During my first expedition I only obtained one specimen, and altogether, by carefully watching some high trees in a large forest for a month, only collected six specimens. These birds seldom left the orchids and other plants which flower on the tops of the highest trees. In the month of March a young bird was obtained which was like the adults, but less distinctly marked on the breast and back, the white stripe in the centre of the feathers in the young bird having a decided yellowish tinge, while the yellow of the rump and vent is not so bright as in the old birds. The food of this species is not entirely insects, as one specimen had several small berries in the throat. Bill, feet, and iris black.]

154. ANTHOTHREPTES MALACCENSIS.

Anthreptes malaccensis (Scop.) ; Salvad. t. c. p. 178 ; Shelley, Monogr. Nect. p. 315, pl. 102 ; Sharpe, Ibis, 1876, p. 42, 1877, p. 18 ; id. P. Z. S. 1879, p. 342 ; id. P. Z. S. 1881, p. 796.

a. ♂ ad. Labuan, June 30, 1885.

b. ♂ juv. Labuan, July 15, 1885.

[One of the commonest Sun-birds, especially in the neigh-

bourhood of cocoa-nut plantations, where it finds abundant food amongst the flowers of the young nuts.

The nest is a pocket, suspended from a branch in some tangled bush, and is much more open at the mouth in proportion than that of *Cinnyris pectoralis*; it is made of grass-stems, and lined with the down off the 'llang' grass, and bound together by spiders' web. Eggs two, dull pink, thickly scribbled over with grey, spotted and sprinkled over with black, after the manner of some Buntings'. Axis 0·7 inch, diam. 0·55. Iris hazel; feet greenish brown; bill black.]

155. *ANTHOTHREPTES PHÆNICOTIS* (T.).

Anthothreptes phænicotis, Shelley, Monogr. Nect. p. 325, pl. 105; Sharpe, P. Z. S. 1879, p. 343; id. Ibis, 1879, p. 260; id. P. Z. S. 1881, p. 796.

Chalcoparia cingalensis (Gm.); Salvad. t. c. p. 180.

a. ♂ ad. Kina Balu, April 1887.

[Not very plentiful in Northern Borneo, met with at 1000 feet on Kina Balu. Iris reddish brown; feet yellowish green; bill black.]

156. *ARACHNOTHERA MODESTA*.

Arachnothera modesta (Eyton), Shelley, Monogr. Nect. p. 353, pl. 113. fig. 1.

a. ♂ ad. Kina Balu, Jan. 16, 1888.

b, c. ♂ ♀ ad. Kina Balu, Feb. 20, 1888.

[Fairly common in old forest. Met with on Kina Balu up to 4000 feet. This species makes a beautiful cup-like nest, which it suspends from the underside of some large leaf. The nest is fastened to the leaf by spiders' web, which is sewn through. It is composed of a bright brown silky substance, which is found on the young fronds of ferns; a good deal of white down from seeds is also used. The outside is covered with small flower- and plant-stems, stuck together with spiders' web.

The eggs are two in number, of a deep olive-brown, mottled and clouded all over with grey specks, sometimes with a well-marked zone of black spots and blotches. I took several

nests about the middle of March on the spurs of Kina Balu. Axis 0·95 inch, diam 0·7.

Native name "Sussut busar." "Sussut" in Kadayan means "lost," busar "big," that is in comparison with *A. longirostris*.

As both species have a peculiar habit of flying low and fast through the jungle, uttering their peculiar call-note at short intervals, the natives may have imagined that the bird is "lost." This species is one of the bird-omens of some tribes. Iris and upper mandible black, lower one brown; feet dull flesh-colour.]

157. ARACHNOTHERA LONGIROSTRIS.

Arachnothera longirostris (Lath.); Salvad. t. c. p. 186; Shelley, Monogr. Nect. p. 357, pl. 114; Sharpe, Ibis, 1887, p. 18; id. Ibis, 1879, p. 261; id. P. Z. S. 1881, p. 796.

a. ♂ ad. Kina Balu, Feb. 15, 1887.

b. ♂ ad. Kina Balu, March 4, 1887.

[Fairly common in old forest, more so near the coast, perhaps, than the last species. It reaches an altitude of nearly 3000 feet on Kina Balu.

The nest is different from that of *A. modesta*, the entire structure being sewn on to the underside of some large leaf, which forms one side of a pocket. The building-materials are dead leaves. The nest I have is unfortunately unfinished.

Native name "Sussut."]

158. ARACHNOTHERA CHRYSOGENYS.

Arachnothera chrysogenys, Temm.; Salvad. t. c. p. 181; Shelley, Monogr. Nect. p. 365, pl. 117; Sharpe, Ibis, 1877, p. 18; id. Ibis, 1879, p. 261.

a, b. ♂ ♀ ad. Lawas River, March 26, 1886.

[I only met with this species on the Lawas River, so perhaps it is not so common in North as in Southern Borneo. Iris black; bill black, yellowish at base; feet dull pink.]

Fam. MELIPHAGIDÆ.

159. ZOSTEROPS AURIVENTER.

Zosterops auriventer, Hume; Sharpe, Cat. B. ix. p. 163.

a, b. ♂ ♀ ad. Kina Balu, March 25, 1887.

c. ♂ ad. Kina Balu, April 1, 1887.

The specimens from Kina Balu cannot be separated from Tenasserim examples, but, as Mr. Whitehead has pointed out, the bird which I had named *Z. auriventer* from Java is really a distinct race, characterized by its very pale ashy sides, almost obsolete abdominal streaks of yellow, and dusky lores. It seems to be deserving of a name, but it is approached by the Malaccan specimens, which are paler than those from Tenasserim.

[Fairly common on the lower spurs of Kina Balu, frequenting the more open spaces, flying in twittering flocks amongst the tops of small trees.]

160. ZOSTEROPS CLARA.

Zosterops clara, Sharpe, Ibis, 1888, p. 479.

a. ♂ ad. Kina Balu, March 9, 1888.

b, c. ♂ ad. Kina Balu, April 5, 1888.

d. ♀ ad. Kina Balu, Feb. 3, 1888.

Adult male. General colour above clear greenish yellow, the rump and upper tail-coverts scarcely lighter than the back; wing-coverts like the back; bastard-wing black; primary-coverts and quills blackish, externally greenish yellow, a little lighter on the primaries, the innermost secondaries like the back; tail-feathers blackish, narrowly margined with greenish yellow; crown of head like the back; the forehead and lores as well as the feathers at the base of the bill blackish, extending on the forehead across the centre of each eye; feathers round eye silky white, except in front, where they are blackish; ear-coverts and cheeks greenish yellow; throat clearer yellow; sides of neck like the back; fore neck, chest, sides of body, and flanks pure bluish grey; centre of breast, abdomen, thighs, and under tail-coverts clear yellow; under wing-coverts and axillaries silky white; quills

below dusky, white along the inner edge. Total length 4 inches, culmen 0·55, wing 2·05, tail 1·4, tarsus 0·6.

Adult female. Similar to the male. Total length 4 inches, culmen 0·5, wing 2·05, tail 1·35, tarsus 0·6.

[Met with only in one locality on Kina Balu, at about 5000 feet. I found a nest of this species, which was built of fine roots on the underside of a moss-covered bough, in the dark damp forests on the slopes of the mountain. The old birds were feeding their young on grubs.]

Fam. DICÆIDÆ.

161. *DICÆUM MONTICOLA*.

Dicæum monticulum, Sharpe, Ibis, 1887, p. 452.

a. ♂ ad. Kina Balu, Feb. 15, 1887.

b, c. ♂ ♀ ad. Kina Balu, April 1, 1888.

The affinity of this species with *Dicæum sulaense* instead of with *D. celebicum* is most interesting. The steel-blue colour of the back separates the Kina Balu bird from both, but it has olive-yellow flanks like *D. sulaense*. Of the latter species the female is at present undescribed, but between the hens of *D. celebicum* and *D. monticola* there is a great difference, the female of the Celebean bird being dull purplish, while the female of *D. monticola* is olive-yellowish on the back, clearer olive-yellow on the rump and upper tail-coverts; the head dusky steel-green washed with olive; wing-coverts blackish, with a steel-green gloss, and edged with olive-yellow; quills blackish, with narrow olive edges; tail-feathers blue-black; sides of face dull ashy shaded with olive, as also the cheeks, with a grey shade over the sides of the fore neck and chest; throat white, gradually turning to pale ochreous yellow on the breast and abdomen and under tail-coverts; sides of body olive; axillaries, under wing-coverts, and quill-lining white, with a yellow tinge. Total length 3·2 inches, culmen 0·4, wing 1·85, tail 0·95, tarsus 0·5.

The young bird resembles the adult female, but has the base of the bill yellowish white and the colours duller; the head olive like the back; the throat pale ashy grey, this colour extending over the breast.

[I first met with this beautiful little bird at an altitude of 4000 feet, where it frequented the parasitic plants and flowers on high trees. In some trees were large clusters of parasites, which were covered with small fruits ; these trees were regularly visited by this *Dicæum*. Iris, feet, and bill black.]

162. *DICÆUM NIGRIMENTUM*.

Dicæum nigrimentum, Salvad. t. c. p. 165 ; Sharpe, P. Z. S. 1879, p. 343 ; id. Cat. B. x. p. 17.

a. ♀ ad. Kina Balu, March 1887.

b. ♂ ad. Kina Balu, April 1887.

c. ♂ ad. Labuan, June 15, 1886.

d. ♂ ad. Labuan, Aug. 20, 1885.

[Common, especially in the neighbourhood of gardens and other open spaces. I have a beautiful nest of this bird, which is a small rounded pocket suspended from the underside of a small twig, well sheltered from above by the broad leaves of the tree. The nest is composed of white (seed) down, and woven on the outside with small red leaves and fine grass-stems. The eggs were three in number and pure white.]

163. *DICÆUM CHRYSORRHÆUM*.

Dicæum chrysorrhæum (T.) ; Salvad. t. c. p. 168 ; Sharpe, Ibis, 1877, p. 17 ; id. Cat. B. x. p. 44.

a. ♂ ad. Lawas River, March 28, 1886.

b. ♂ ad. Kina Balu, March 15, 1887.

[Apparently scarce, only two specimens being met with during my expeditions. Iris red ; feet and bill black.]

164. *DICÆUM TRIGONOSTIGMA*.

Dicæum trigonostigma (Scop.) ; Salvad. t. c. p. 166 ; Sharpe, Ibis, 1876, p. 42 ; id. Ibis, 1877, p. 17 ; id. Cat. B. x. p. 38 ; P. Z. S. 1879, p. 343 ; id. Ibis, 1879, p. 261 ; id. P. Z. S. 1881, p. 796.

a. ♂ ad. Kina Balu, April 15, 1888.

b, c. ♂ ; d. ♀ ad. Kina Balu, April 1887.

[Met with on Kina Balu at about 1000 feet. Iris dark brown ; bill black ; feet greyish black.]

165. PRIONOCHILUS XANTHOPYGIUS.

Prionochilus xanthopygius, Salvad. t. c. p. 162; Sharpe, Ibis, 1877, p. 17, 1879, p. 261; Cat. B. x. p. 66.

a, b. ♀ ad. Lawas River, March 26, 1886.

166. PRIONOCHILUS THORACICUS.

Prionochilus thoracicus (T.); Salvad. t. c. p. 163; Sharpe, Ibis, 1877, p. 17, 1879, p. 261; id. P. Z. S. 1881, p. 795; Cat. B. x. p. 67.

a, b. ♂ ad. Sandakan, April 24, 1885.

[Only met with on one occasion, near Sandakan. Iris, feet, and bill black.]

Fam. HIRUNDINIDÆ.

167. HIRUNDO JAVANICA.

Hirundo javanica, Sparrm.; Salvad. t. c. p. 126; Sharpe, Ibis, 1876, p. 43; id. P. Z. S. 1879, p. 345; Cat. B. x. p. 142.

a. ♂ ad.; *b.* ♂ juv. Pulo Gaya, May 5, 1885.

[Common throughout Northern Borneo, often nesting under the verandahs of houses, but I once saw a nest in an old tree-stump, which was standing up in the middle of a river.

The nest is made of mud and grass, and contains two eggs in May and other months. The eggs are white, spotted and marked like those of *H. rustica*. Axis 0·7, diam. 0·5.

Native name for all Swallows and Swifts "Liang-liang."

Iris, feet, and bill black.]

Fam. MOTACILLIDÆ.

168. MOTACILLA MELANOPE.

Motacilla melanope, Pall.; Sharpe, Cat. B. x. p. 497; id. P. Z. S. 1879, p. 343.

Calobates bistrigata (Raffl.); Salvad. t. c. p. 259.

a. ♂ ad. Kina Balu, Jan. 10, 1888.

b. ♀ ad. Kina Balu, Feb. 28, 1887.

c. ♂ ad. Kina Balu, April 2, 1887.

[This species prefers the beds of rocky torrents, where it is generally met with singly. On Kina Balu it frequented

streams up to 3000 feet. Native name "Bras bras." "Bras" is "rice" in Malay, and as Wagtails visit Borneo in swarms during the rice-planting season and frequent the fields when the grain first springs up, the native name is derived from this circumstance.]

169. MOTACILLA FLAVA.

Motacilla flava, L.; Sharpe, Cat. B. x. p. 516.

Motacilla viridis, Brüggem. t. c. p. 461.

a. ♂ juv. Labuan, Nov. 30, 1885.

b. Juv. Labuan, Dec. 20, 1885.

c, d. Juv. Tampassuk, Feb. 16, 1886.

[I saw this species in thousands on the Tampassuk plains, where they were busily engaged in following up the grass-fires, feeding on singed grasshoppers.]

170. ANTHUS RICHARDI.

Anthus richardi, Vicill.; Sharpe, Cat. B. x. p. 564.

a. ad. Labuan, Nov. 8, 1887.

Recorded from Borneo for the first time.

[I saw three or four Pipits of this species on Labuan Plain and noticed that their note was different from those of the Pipits I had met with before. Doubtless it is a regular winter migrant to that island.]

171. ANTHUS GUSTAVI.

Anthus gustavi, Swinh.; Sharpe, Cat. B. x. p. 613; id. P.Z.S. 1879, p. 344; id. Ibis, 1879, p. 262; id. P.Z.S. 1881, p. 798.

a. ♂ ad. Labuan, Jan. 15, 1885.

b. ♂ ad. Abai, Feb. 27, 1886.

c. ♂ ad. Pulo Tega, April 22, 1886.

[This species prefers the forests to the open places, and frequents the ground.]

Fam. STURNIDÆ.

172. STURNIA VIOLACEA (Bodd.).

Sturnia dominicana (nec Bodd.); Salvad. t. c. p. 269.

Sturnia daurica (nec Pall.); Sharpe, Ibis, 1879, p. 262.

a, b. ♂ ♀ ad. Sandakan, April 24, 1885.

This is the species which I erroneously entered as Bornean in my paper on Mr. Treacher's collection (Ibis, 1879, p. 262). Professor Westwood kindly sent me one of the specimens from Oxford, and I discovered my mistake at once. Both individuals were immature, and in this plumage they much resemble the young of *S. sturnina*.

[I met with this species in an open patch which was covered with a small berry-bearing plant on which they were feeding. I again saw a large flock in Labuan on the same shrubs, in the winter months. Iris, upper mandible, and feet black; lower mandible blue-grey.]

173. CALORNIS CHALYBEA.

Calornis chalybea (Horsf.); Salvad. t. c. p. 271; Sharpe, Ibis, 1876, p. 45, 1877, p. 21; id. P. Z. S. 1879, p. 345; id. Ibis, 1879, p. 262; id. P. Z. S. 1881, p. 799; Brüggem. t. c. p. 461.

a, b. ♂ ad. et juv. Labuan, July 1885.

[Very common in Labuan, where they frequent the fruit-gardens and other open spots. They retire to rest in large flocks in the cocoa-nut trees, where they take some time before settling down, making a good deal of noise.

This Starling nests in holes in dead trees in colonies, and I have seen them frequenting a dovecot in numbers for nesting-purposes.

Native name "Salangkir."

Iris bright vermilion, feet and bill black.]

174. GRACULA JAVANENSIS.

Gracula javanensis (Osbeck); Salvad. t. c. p. 274; Sharpe, P. Z. S. 1879, p. 346; id. Ibis, 1879, p. 262; Brüggem. t. c. p. 461.

a. ♂ ad. Labuan, Nov. 30, 1885.

[Common, frequenting the more open districts, where it nests in holes in the old dead trees. This bird is, in Borneo, as elsewhere, a great favourite with the natives, who teach it to talk. Native name "Teung."]]

Fam. ARTAMIDÆ.

175. ARTAMUS LEUCORHYNCHUS.

Artamus leucorhynchus (L.) ; Salvad. t. c. p. 140 ; Sharpe, Ibis, 1876, p. 45 ; id. P. Z. S. 1879, p. 345.

a. ♂ ; b, c. ♀ ad. Pulo Gaya, April 30, 1885.

[Iris dark hazel ; bill light blue ; feet dull brown.

This is a common species, frequenting open spaces, more especially where dead trees remain standing after forest fires.

The Tree Swallow is a most disagreeable bird, and seems to think that if it has chosen a tree no other bird has a right to perch on it : if a Pigeon or Hawk tries to rest for a few moments it is soon mobbed and made to move on.

The note is equally as disagreeable as the bird's nature appears to be, being a sharp chattering, which is continually kept up. Their flight is graceful, but not prolonged, the birds often resting on a dead branch, on which they sit in bunches of four or five, with their bodies almost touching each other.

The nest is composed of light grey stalks and small roots, which assimilate well with the bleached trees on which they are built ; it is lined with finer roots and grasses.

Eggs three, laid in June, creamy white in colour, slightly spotted with grey and light brown, especially at the larger end, where a zone is formed with blotches of the same colour. Axis 1·05 inch, diam. 0·7.]

Fam. PLOCEIDÆ.

176. PADDA ORYZIVORA (L.) ; Salvad. t. c. p. 263 ; Sharpe, P. Z. S. 1879, p. 344.

a. Ad. Labuan.

[This species is, I believe, an importation of the Hon. Hugh Low, the late Governor of Labuan. It is now too plentiful to please the natives, doing great damage to their rice-fields. I have never seen it on the main land of Borneo, though Labuan is only a few miles distant, but in that island it is very common. The Sarawak Dyaks, I believe, are fond of these birds, and purchase them in Labuan, so no doubt before many years are past it will be common throughout Borneo.

In Java, in some of the towns where there were many thick-foliaged trees, this species used to collect at nights in flocks of thousands, making a great noise with their wings as they occasionally took flight before finally resting.

Native Bornean name "Pipit Java."]

177. *MUNIA FUSCANS*.

Munia fuscans (Cass.); Salvad. t. c. p. 268; Sharpe, P. Z. S. 1879, p. 344; Brüggem. t. c. p. 461.

a. ♂ ad. Labuan, June 17, 1886.

[This little *Munia* was at one time more common in Labuan than it now is, having been driven away by its larger ally, which, again, in no distant future will be driven before the ever-increasing hordes of *Padda oryzivora*.

It is now by no means common in Labuan, where it frequents the rice-fields and gardens, nesting in the fruit-trees. The nest is a large ball of various grasses with a small hole at the side, around which project the seed-ends of many grasses, almost hiding the entrance.

The eggs are five, pure white, and may be found in January and other months: axis 0·6 inch, diam. 0·45. I met with this species on Kina Balu up to 1500 feet.

Native name "Pipit itham."]

178. *MUNIA BRUNNEICEPS*.

Munia brunneiceps, Walden, Trans. Z. S. viii. p. 73, pl. ix. fig. 1 (1872).

Munia atricapilla (V.); Salvad. t. c. p. 265; Sharpe, Ibis, 1876, p. 50; id. P. Z. S. 1879, p. 344; id. P. Z. S. 1881, p. 798.

a. ♀ ad. Labuan, June 30, 1885.

b. Ad. Labuan, Dec. 1886.

Having recently worked out these Chestnut-and-black Weaver Finches, I find that the Bornean bird is the same as the Celebean one: it has probably been introduced from that island.

[One of the commonest species, found in open districts, where it is ever ready to pounce on the ripening rice of the natives. In some places these little pests (unless the fields

are carefully guarded) get more rice than the native himself. They nest in numbers in gardens. The nest is similar to that of *M. fuscans*, the eggs being also white. Axis 0·65 inch, diam. 0·45. I have often turned out seven or eight birds from one of their old nests in the evening, and am at a loss to know how they could possibly pack together into such a small place.

Native name "Pipit," which is evidently given them from their note "Pipē-pipē," which they frequently utter.]

179. CHLORURA BORNEENSIS.

Chlorura borneensis, Sharpe, Ann. & Mag. Nat. Hist. (6), iii. p. 424 (1889).

C. hyperythra (nec Reichenb.) ; Sharpe, Ibis, 1887, p. 453.

a, b. ♂ ♀ ad. Kina Balu, April 5, 1887.

c. ♂ ad. Kina Balu, March 2, 1888.

d, e. ♂ ad. Kina Balu, Feb. 1888.

[The young bird is similar in colouring to the adults, but wants the black forehead and blue crown, which is green like the back. The cheek, throat, fore neck, and breast are not so vivid in colour as in the adults.

During my first expedition to Kina Balu I only collected two of this beautiful little bird, which were feeding in a rice-field. This locality was, however, not its real habitat; for on climbing up to nearly 9000 feet I came upon its true head-quarters, which is the bamboo-jungle at that elevation.

The birds were difficult to see and shoot, owing to the thickness of the jungle and their green colouring, and they are often too close when seen.

The flight is very quick, and when on the wing the bird continually utters its call-note, which is a hissing sound like "Tzit-tzit," but when settled it is silent. Iris and bill black; feet flesh-colour.]

180. ERYTHRURA PRASINA.

Erythrura prasina (Sparrm.) ; Salvad. t. c. p. 268 ; Sharpe, Ibis, 1876, p. 507, 1879, p. 262.

a, b. ♂ ♀ ad. Kina Balu, Jan. 15, 1888.

c, d. ♂ ad. Kina Balu, Jan. 8, 1888.

[Not met with until my last expedition to Kina Balu (when I arrived a month earlier than on my previous visit). These birds were then in large flocks in the Dusan rice-fields, and were especially active late and early in the day.

Though their plumage is composed of the brightest of colours, these birds are difficult to see when settled in the jungle, into which they fly on being alarmed. Iris and bill black; feet flesh-colour.

After a month there was not a bird to be met with.

Dusan name "Tuhan." Kadayan name "Pipit trepas."

"Trepas" is the name given to the small Parrot (*Loriculus galgulus*), which this bird resembles somewhat in colour.

Some of the natives have a peculiar belief that this species makes a glutinous nest in caves like a *Collocalia*, which of course is extremely improbable.]

Fam. EURYLÆMIDÆ.

181. CALYPTOMENA WHITEHEADI.

Calyptomena whiteheadi, Sharpe, P. Z. S. 1887, p. 558; id. Ibis, 1887, p. 454; id. Ibis, 1888, p. 231, pl. v.; Sci. Cat. B. xiv. p. 457.

a. ♂ ad. Kina Balu, Feb. 25, 1887.

b, c. ♂ ♀ ad. Kina Balu, March 6, 1887.

d. ♀ ad. Kina Balu, May 10, 1888.

e. ♂ juv. Kina Balu, May 13, 1888.

I have given a full description of the plumages of this lovely bird in last year's 'Ibis' (1888, p. 231), with a figure of the male.

[I met with this beautiful species on my first expedition at an elevation of 3000 feet. On my second expedition, after reaching altitudes above 5000 feet, it was not observed, so the exact range is apparently from 3000 to 5000 feet. This *Calyptomena* frequents the dark damp ravines of Kina Balu, where the forest is tropical, but wherever the ground is poor and the trees become alpine in character it is absent.

The bird frequents the lower boughs of big trees and feeds chiefly on jungle fruits. I discovered a nest with eggs and also one nest containing young birds. The following notes are from my journal:—

“17th March, 1888.

“The great thing to-day has been the discovery of the nest of my *Calypomena*. Whilst resting in a dark and dense part of the forest I sent on one of my natives to try for some Pigeons (*Carpophaga badia*) which were booming in the high trees; in a short time a bird settled near me, making a peculiar ‘Kurr-r’ like note. On my moving it flew away, but shortly returned to another tree, which I carefully approached. I soon espied the *Calypomena* holding on to a large tuft of moss. The bird remained thus for some seconds watching me without moving, when it dawned upon me that the lump of dangling moss was a great prize—the nest of my finest novelty. A shot from my small gun brought down the hen bird, and when my native returned I sent him up the tree; but the nest, alas! contained two dull yellow featherless youngsters, both killed by the same shot that destroyed their mother. The nest was hanging from the end of a slender bough about 50 feet from the ground. The outside was composed of fresh green moss bound over the bough and worked into the sides, ending up with a long streamer, which assists in assimilating the appearance of the nest to the long dripping streamers of moss and lichens which hang from every bough in these ever rainy regions. The inside of the nest is very solid, lined with dry bamboo-leaves above and below, forming a well-sheltered pocket. Having thus obtained a clue to the nesting-habits of this species, I visited all likely places for their nests, and shortly after found a nest containing two eggs. This nest was similar to the one first found, and was placed at the end of a long slender bough over an open space. This position is chosen, no doubt, so as to be well out of the reach of various monkeys.”

Dusan name “Ralo.”

Eggs two, glossy creamy white. Axis 1.45 inch, diam. 1.0.

A young bird just out of the nest was of a much duller colour on the breast than the adult, the feathers being mingled with greyish down. The black patch on the throat is scarcely perceptible. The back, wings, and tail are as bright as in the adult female.]

182. CALYPTOMENA VIRIDIS.

Calyptomena viridis, Raffl.; Salvad. t. c. p. 106; Sharpe, Ibis, 1877, p. 22, 1879, p. 263; id. P. Z. S. 1881, p. 798; Sel. Cat. B. xiv. p. 456.

a. ♂ ad. Sandakan, April 22, 1885.

b. ♂ ad. Lawas River, April 3, 1886.

c. ♂ ad. Kina Balu, March 16, 1887.

[Fairly common in old forests, where it frequents the lower branches of high trees in shady places. This species reaches an altitude of 4000 feet on Kina Balu, but is scarce at that elevation.

One native name "Bintarrang."

Iris black; bill and feet dull yellowish brown.]

183. PSARISOMUS PSITTACINUS.

Psarisomus dalhousiæ (pt.), Sel. Cat. B. xiv. p. 459.

Psarisomus dalhousiæ (nec James.); Sharpe, Ibis, 1887, p. 453.

a, b. ♂ ♀ ad. Kina Balu, March 6, 1887.

c. ♀ ad. Kina Balu, March 14, 1888.

d. Juv. Kina Balu, April 20, 1888.

The Green Broadbill of Sumatra and Borneo is fairly distinct as a race from the Himalayan *P. dalhousiæ* on account of its more pronounced white collar, and may be separated as *P. psittacinus* (S. Müll.). The sexual difference in the colour of the nape-spot recorded by Mr. Whitehead does not seem to have been noticed by any previous writer.

[Speaking of one of my Kina Balu specimens, sent to Leiden, Mr. Büttikoffler says: "Our typical specimens of *P. psittacinus* have the collar less broad than in your Bornean bird. A young one has none; in others it is very distinct, but only in one, also from Sumatra (which I believe to be very old), is it nearly as broad as in your Bornean specimen. We have also two specimens from the Himalayas, and both have the collar yellow instead of white." So perhaps Müller's name of *P. psittacinus* should hold only for the Sumatran and Bornean species, and that of *P. dalhousiæ* for those of the Himalayas.

The sexes differ, the nape of the neck of the female having a patch of yellow feathers between the black and blue patches. This colour is absent in the collar of the male, which has only a blue patch.

This gaily-plumaged bird is fairly common at an altitude of from 3000 to 4000 feet on Kina Balu, where it frequents the tops of high trees in the tropical patches of forest, feeding apparently on fruits. It has a peculiar shrill note, and is generally found in pairs. It nests apparently about the middle of March, as a female shot on that date had been sitting. The white spot on the underside of the wing is very apparent when it makes short flights from tree to tree.

The colouring of the soft parts is rather complicated. Iris grey, with a narrow ring of lake-red round the pupil; upper mandible emerald-green, darker at the base, fading into pale blue as it nears the tip, which is almost white; lower mandible orange, fading into yellow and then blue, with the base emerald-green; feet horny green.]

184. EURYLÆMUS JAVANICUS.

Eurylemus javanicus, Horsf.; Salvad. t. c. p. 107; Sharpe, Ibis, 1876, p. 48, 1877, p. 22, 1879, p. 263; Sel. Cat. B. xiv. p. 463.

a. ♂ juv. Benkoka, Sept. 22, 1885.

b. ♂ ad. Kina Balu, Feb. 1888.

[Fairly common everywhere, reaching an altitude of 1000 feet on Kina Balu.

Iris greyish blue; bill turquoise-blue green, cobalt at base; feet dirty pink.]

185. EURYLÆMUS OCHROMELAS.

Eurylemus ochromelas, Raffl.; Salvad. t. c. p. 108; Sharpe, Ibis, 1876, p. 48, 1877, p. 21, 1879, p. 263; id. P. Z. S. 1881, p. 798; Sel. Cat. B. xiv. p. 465.

a, b. ♂ ♀ ad. Benkoka, Sept. 25, 1885.

c. ♂ ad. Kina Balu, March 17, 1887.

d. ♂ ad. Kina Balu, Jan. 14, 1888.

[Distribution the same as in the last species. Met with on Kina Balu at about 1000 feet. Native name "Tapau." Iris bright yellow, bill turquoise-blue.]

186. CYMBIRHYNCHUS MACRORHYNCHUS.

Cymbirhynchus macrorhynchus (Gm.) ; Salvad. t. c. p. 109 ; Sharpe, Ibis, 1876, p. 48, 1877, p. 22, 1879, p. 264 ; id. P. Z. S. 1881, p. 798 ; Scl. Cat. B. xiv. p. 468.

a. ♂ ad. Benkoka, Sept. 5, 1885.

[A common forest species. Iris bottle-green ; upper mandible turquoise-blue ; under one blue, running into light blue and king's yellow at base ; feet light blue.]

187. CORYDON SUMATRANUS.

Corydon sumatranus (Raffl.) ; Salvad. t. c. p. 111 ; Sharpe, Ibis, 1876, p. 48, 1877, p. 21, 1879, p. 265 ; Scl. Cat. B. xiv. p. 466.

a. Juv. Benkoka, July 6, 1885.

b. ♀ ad. Benkoka, April 16, 1886.

c. ♂ ad. Kina Balu, March 15, 1887.

d. ♀ ad. Kina Balu, May 5, 1888.

[Rather a scarce species in Borneo, frequenting old forest. Met with on Kina Balu up to 2000 feet. Iris dull white ; skin round eyes pink ; bill dull pinkish brown ; feet brown.]

Fam. PITTIDÆ.

[I have seen all the following species of Pittas alive in their forests, except *P. schwaneri*, and I have also shot *P. sordida* and *P. erythrogastra* in Palawan and *P. cyanura* in Java, so perhaps my observations of the group may be of some value.

Pittas, as a rule, keep to the ground or on the lower branches of trees near it ; but I have shot these birds high up in trees where they have been whistling. It is not at all an uncommon thing to hear a Pitta cry out in the middle of the night, which they do either in the forests or when taking flights from one forest to another ; these movements take place most frequently on moonlight nights.

There is little doubt that Pittas are migratory, as they may be met with at certain times in numbers on the small islands some distance from the coast, which at other times do not contain a single bird (see my notes on *P. cyanoptera*). At

some seasons districts on the coast are frequented by numbers of a certain species, where in other seasons it would be impossible to procure a specimen.

Pitta bertæ, of which species there are but few specimens known, is, in all probability, a migrant from Formosa or China to Borneo.

P. cyanura of Java frequents the coffee-plantations, the females being apparently separated from the males in certain seasons, as I collected a number of males in one forest and did not see a female, while in another forest I collected nothing but females.

The note of these birds is generally a two- or three-syllabled whistle: that of *P. erythrogastra*, "Wow-wā" whistled; of others "Quop-quop;" while *P. ussheri* has a prolonged whistle.

Pittas hop over the ground, moving along at a great pace. The young have a plumage distinct from the adults, those of *P. muelleri* and *P. sordida* having less white on the primaries, pale pink abdomens, yellowish breasts, white throats, and dull green backs, the head being brownish. The young of the *P. erythrogastra* group are of a uniform brown, darker on the back.

The flesh of these birds is white and sweet.]

188. PITTA ARCUATA.

Pitta arcuata, Gould; Salvad. t. c. p. 241; Sharpe, Ibis, 1879, p. 263; Sel. Cat. B. xiv. p. 431.

a, b. ♂ ♀ ad. Kina Balu, May 1888.

c, d. ♂ ♀ ad. Kina Balu, March 10, 1887.

There is no difference in the colouring of the sexes; but the female has scarcely such a finely developed necklace.

[I met with this beautiful Pitta on Kina Balu at from 2000 to 4000 feet in true forest, where it frequented the thick bamboo-jungle. Iris black; bill dark brown, greyish at base of lower mandible; legs slate-grey.]

189. PITTA BAUDI.

Pitta baudi, M. & S.; Salvad. t. c. p. 243; Sharpe, P. Z. S. 1881, p. 798; Sel. Cat. B. xiv. p. 444.

a. ♂ juv. Benkoka, Sept. 15, 1885.

b. ♂ ad. Benkoka, Oct. 8, 1885.

[Apparently rare. I only saw three birds of this species during my stay in Borneo. Iris and bill black; legs slaty blue.]

190. *PITTA SCHWANERI*.

Pitta schwaneri, T.; Salvad. t. c. p. 243; Sharpe, Ibis, 1869, p. 263.

Eucichla schwaneri, Sel. Cat. B. xiv. p. 446.

a, b. ♂ ♀ ad. Kina Balu, May 20, 1888.

[Only two specimens met with, which were procured on Kina Balu, at 5000 feet, by one of my men after I had left to pack up for my return journey to the coast.]

191. *PITTA USSHERI*.

Pitta ussheri, Sharpe, P. Z. S. 1877, p. 94; id. Ibis, 1879, p. 263; id. P. Z. S. 1881, p. 798; Sel. Cat. B. xiv. p. 430.

a, b. ♂ ad.; *c.* ♀ ad. Benkoka, Oct. 10, 1885.

d. ♀ ad. Benkoka, Sept. 8, 1885.

[A local species, being fairly common in parts of Northern Borneo. Though extremely bright in plumage, this *Pitta* is difficult to see, the bright scarlet breast, when turned towards one, is not so easily distinguished from the scarlet fruits and bright red dead leaves which carpet these forests. Then the bird when alarmed generally keeps its dark back towards one, which is still more difficult to see in the dusky shades of the forest. The note is peculiar, being a prolonged whistle, gradually rising in power, and suddenly ceasing when it reaches its highest pitch. These birds are good ventriloquists. I have often been looking for a *Pitta* in the opposite direction to which he was, and at last discovered the bird hopping about in the thick jungle within a few yards of my back. Iris and bill black; legs slaty blue.]

192. *PITTA CYANOPTERA*.

Pitta cyanoptera, T.; Salvad. t. c. p. 235; Sharpe, Ibis, 1879, p. 262; id. P. Z. S. 1881, p. 798; Sel. Cat. B. xiv. p. 420.

Brachyurus moluccensis (S. Müll.); Sharpe, Ibis, 1877, p. 10.

a, b. ♂; *c.* ♀ ad. Pulo Tega, April 24, 1886.

Met with on Pulo Tega in numbers during April 1886, but in the following year Mr. A. H. Everett sent a collector to that island, where he procured numbers of *Pitta muelleri* but no *P. cyanoptera*. When I visited the island there were no *P. muelleri* to be seen. This species must therefore be migratory. It is fairly plentiful in Labuan in some seasons; at other times it is not to be met with.

It frequents the ground and lower branches of trees in old forest, and is not so easy to shoot as might be imagined from its colouring, as it takes good care to keep its green back to the bird-collector. This species takes flight more often when alarmed than *P. ussheri* or any other species of this genus that I have met with. The note is a short whistle uttered sharply three times, the first note being the shrillest.

Iris black; bill dark brown; legs pale pink.]

193. *PITTA MUELLERI*.

Pitta muelleri (Bp.); Salvad. t. c. p. 240; Sharpe, P. Z. S. 1879, p. 346; id. Ibis, 1879, p. 263; id. P. Z. S. 1881, p. 798; Sel. Cat. B. xiv. p. 439.

a, b. ♂ ♀ ad. Labuan, June 15, 1886.

c. ♀ juv. Labuan, January 5, 1885.

[Fairly common in Labuan in certain months, and no doubt migrates at certain seasons to this island. Iris and bill black; feet slaty grey.

Native name for all species of *Pitta* "Teung tana."]

[To be continued.]

XLI.—*Some Notes on, and Additions to, the Chinese Avifauna.* By F. W. STYAN.

OF the eleven species of Birds enumerated below, five, I believe, have not hitherto been met with in China, and the remaining six are recorded from localities showing an extended range. I deal briefly with them as it is my intention at an early date to treat more fully of the birds of central China, to which district most of these notes refer.



J.G. Keulemans del. et lith

Mintern Bros imp

ORTHNOCICHLA WHITEHEADI.



J. G. Keulemans del. et lith

Miner Bros. imp

ALCOTOPS CALVUS. AD. ET JUV.